

1

2

3 **MULTISERVICE NETWORK PROCESSING DEVICE**

4

5 Bidyut Parruck

6 Chulanur Ramakrishnan

7 Rami Zecharia

8 Nael Atallah

9 Hung Nguyen

10 Shankar Channabasappa

11

12 **ABSTRACT OF THE DISCLOSURE:**

13

14

15

16

17

18

19

20

21

An integrated circuit has a lookup engine, a segmentation engine, and a reassembly engine that can be used in various combinations such that a line card employing the integrated circuit is configurable to: 1) function as an ingress line card receiving data in cell and/or packet format from a network and supplying that data to the switch fabric of a router, or 2) function as an egress line card receiving data from the switch fabric and outputting that data in cell and/or packet format to a network. The switch fabric can be either a cell format switch fabric or a packet format switch fabric.